In the CLAIMS Section

Please amend the claims as follows:

- 1 1. (currently amended) An ultrasound clutter filter system, comprising:
- 2 a processor that is configured to iteratively select an optimal high pass filter for
- 3 <u>progressive, ordered</u> filtering [[out]] of clutter from ultrasound color flow imaging data
- 4 wherein a determination of whether a high pass filter is optimal is made by comparing
- 5 an index to a threshold for that index, the index being computed using a mathematical
- 6 formula including a mean frequency and a magnitude of a filtered signal, wherein a
- 7 high pass filter input for each iterative selection is the original ultrasound color flow
- 8 <u>imaging data</u>.
- 1 2. (previously presented) The system of claim 1 wherein the filtering is performed over
- 2 each packet of flow data that corresponds to an acoustic point in a color flow region of
- 3 interest.
- 1 3. (currently amended) The system of claim 1 wherein a criterion for selecting the
- 2 optimal <u>high pass</u> filter is if [[a]] <u>the</u> filtered signal is less than a threshold.
- 1 4. (currently amended) The system of claim 1 wherein a criterion for selecting the
- 2 optimal <u>high pass</u> filter is if a magnitude of a portion of [[a]] <u>the</u> filtered signal that is
- 3 within a predetermined frequency range is less than a threshold.
- 1 5. (currently amended) The system of claim 1 wherein a criterion for selecting the
- 2 optimal <u>high pass</u> filter is if a total energy of the filtered signal is less than an energy
- 3 threshold.

- 1 6. (previously presented) The system of claim 1 wherein the filtering is performed in
- 2 real time while imaging.
- 1 7. (currently amended) The system of claim 1 further comprising a finite number of
- 2 <u>high pass</u> filters from which the optimal <u>high pass</u> filter is selected.
- 8. (currently amended) The system of claim 7 in which the finite number of high pass
- 2 filters is two.
- 9. (currently amended) An ultrasound clutter filter system, comprising:
- 2 a processor that is configured to iteratively select an optimal high pass filter for
- 3 progressive, ordered filtering [[out]] of clutter from ultrasound color flow imaging data
- 4 wherein a criterion for selecting the optimal high pass filter is if a mean frequency of
- 5 [[a]] filtered signal data is less than a clutter frequency threshold wherein if the mean
- 6 frequency is less than the clutter frequency threshold is determined by whether an
- 7 absolute value of an imaginary part of a first order autocorrelation of a color flow the
- 8 <u>filtered</u> signal <u>data</u> is less than a constant times a real part of the autocorrelation, where
- 9 the constant is determined by the clutter frequency threshold, wherein a high pass filter
- 10 input for each iterative selection is the original ultrasound color flow imaging data.
- 1 10. (currently amended) The system of claim 9 wherein a criterion for selecting the
- 2 optimal <u>high pass</u> filter further comprises if [[a]] <u>the</u> filtered signal <u>data</u> is less than a
- 3 threshold.
- 1 11. (currently amended) The system of claim 9 wherein a criterion for selecting the
- 2 optimal <u>high pass</u> filter further comprises if a magnitude of a portion of [[a]] <u>the</u> filtered
- 3 signal that is within a predetermined frequency range is less than a threshold.

- 1 12. (currently amended) The system of claim 9 wherein a criterion for selecting the
- 2 optimal high pass filter further comprises if a total energy of the filtered signal is less
- 3 than an energy threshold.
- 1 13. (previously presented) The system of claim 9 wherein the filtering is performed
- 2 over each packet of flow data that corresponds to an acoustic point in a color flow region
- 3 of interest.
- 1 14. (previously presented) The system of claim 9 wherein the filtering is performed in
- 2 real time while imaging.
- 1 15. (currently amended) The system of claim 9 further comprising a finite number of
- 2 <u>high pass</u> filters from which the optimal <u>high pass</u> filter is selected.
- 1 16. (currently amended) The system of claim 15 in which the finite number of high pass
- 2 filters is two.
- 1 17. (currently amended) An ultrasound clutter filtering method, comprising:
- 2 iteratively selecting an optimal <u>high pass</u> filter for <u>progressive</u>, <u>ordered</u> filtering
- 3 wherein the iteratively selecting comprises computing an index using a mathematical
- 4 formula including a mean frequency and a magnitude of a filtered signal and
- determining whether a filter is optimal by comparing the index to a threshold, wherein a
- 6 <u>high pass filter input for each iterative selection is original ultrasound color flow data;</u>
- 7 and
- 8 filtering [[out]] clutter from the ultrasound color flow data until the clutter is
- 9 <u>substantially removed</u>.

- 1 18. (previously presented) The method of claim 17 wherein the filtering comprises
- 2 filtering an individual packet of the ultrasound color flow data that corresponds to an
- 3 acoustic point in a region of interest.
- 1 19. (previously presented) The method of claim 17 wherein the filtering is performed in
- 2 real time while collecting the ultrasound color flow data.
- 1 20. (currently amended) The method of claim 17 wherein the iteratively selecting
- 2 further comprises determining if [[a]] the filtered signal is less than a threshold.
- 1 21. (currently amended) The method of claim 17 wherein the iteratively selecting
- 2 further comprises determining if a magnitude of [[a]] the filtered signal is less than a
- 3 than a frequency threshold.
- 1 22. (currently amended) The method of claim 17 wherein the iteratively selecting
- 2 further comprises selecting a <u>high pass</u> filter from a finite number of <u>high pass</u> filters.
- 1 23. (currently amended) The method of claim 17 wherein the iteratively selecting
- 2 further comprises selecting one of two high pass filters.
- 1 24. (previously presented) The method of claim 17 wherein the iteratively selecting
- 2 further comprises determining if a magnitude of a color flow signal in a preselected
- 3 frequency range is less than a color flow signal threshold wherein a phase shift is less
- 4 than a phase shift threshold.
- 1 25. (currently amended) An ultrasound clutter filtering method, comprising:
- 2 iteratively selecting an optimal <u>high pass</u> filter for <u>progressive</u>, <u>ordered</u> filtering
- 3 of ultrasound color flow data wherein the iteratively selecting comprises determining if
- 4 a magnitude of a color flow signal in a preselected frequency range is less than a color

- 5 flow signal threshold, wherein the determining includes determining whether an
- 6 absolute value of an imaginary part of a first order autocorrelation of the color flow
- [[signal]] data is less than a constant times a real part of the autocorrelation, where the
- 8 constant is determined by a frequency threshold, wherein a high pass filter input for
- 9 <u>each iterative selection is the original ultrasound color flow data</u>, and;
- filtering [[out]] clutter from the ultrasound color flow data until the clutter is
- 11 <u>substantially removed</u>.
- 1 26. (previously presented) The method of claim 25 wherein the filtering comprises
- 2 filtering an individual packet of the ultrasound color flow data that corresponds to an
- 3 acoustic point in a region of interest.
- 1 27. (previously presented) The method of claim 25 wherein the filtering is performed in
- 2 real time while collecting the ultrasound color flow data.
- 1 28. (currently amended) The method of claim 25 wherein the iteratively selecting
- 2 further comprises determining if [[a]] the filtered signal is less than a threshold.
- 1 29. (currently amended) The method of claim 25 wherein the iteratively selecting
- 2 further comprises determining if a magnitude of frequency of [[a]] the filtered signal is
- 3 less than a frequency threshold.
- 1 30. (previously presented) The method of claim 25 wherein determining further
- 2 comprises determining whether a phase shift is less than a phase shift threshold.
- 1 31. (currently amended) The method of claim 25 wherein the iteratively selecting
- 2 further comprises selecting a <u>high pass</u> filter from a finite number of <u>high pass</u> filters.

- 1 32. (currently amended) The method of claim 25 wherein the iteratively selecting
- 2 further comprises selecting one of two <u>high pass</u> filters.
- 1 33. (new) The system of claim 7, wherein the infinite number of high pass filters
- 2 comprises a finite impulse response filter.
- 1 34. (new) The system of claim 7, wherein the infinite number of high pass filters
- 2 comprises an infinite impulse response filter.
- 1 35. (new) The method of claim 23, wherein one of the two high pass filters
- 2 comprises a finite impulse response filter.
- 1 36. (new) The method of claim 23, wherein one of the two high pass filters
- 2 comprises an infinite impulse response filter.